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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,966	12/31/2001	Bum-Soo Kim	Q67501	5429

7590 07/27/2004  
SUGHRUE, MION, ZINN,  
MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3202

EXAMINER

KIM, HONG CHONG

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/029,966	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Hong C Kim	<b>Art Unit</b> 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 16-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11 and 15 is/are rejected.
- 7) ☒ Claim(s) 5-10 12-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*idm*

### **DETAILED ACTION**

1. Applicant's election with traverse of claims 1-15 in the reply filed on 4/30/2004 is acknowledged. The traversal is on the ground(s) that the claims of Groups I, II and III are so inextricably interrelated that either group of claims cannot be comprehensively examined without also searching those areas in which the other group is classified. This is not found persuasive because claims 1-15, group I, are drawn to a method for writing data to a flash memory including allocating step, classified in class 711, subclass 170; claims 16-17, group II, are drawn to a method for reading data from a flash memory including searching a log pointer table step, classified in class 711, subclass 202; and claims 18-38, group III, are drawn to a method for managing a flash memory including a data block and a log block for writing data including step for updating the data block when the error occurs, classified in class 714, subclass 6. In other words, claims 16-17 discloses the step of searching a log pointer table step and claims 18-38 discloses additional limitation of updating the data block when the error occurs in a flash memory including a data block and a log block for writing data. Also the restriction is proper since Inventions groups I, II, and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention in groups I-III has separated utility because each of the invention claims different flash memory operations as stated in the previous paragraph. Each of the claimed invention groups can be used separately in a flash memory system. Because these inventions are distinct for the

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reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper

2. Claims 16-38 withdrawn from further consideration by the examiner, 37 C.F.R. 1.142(b) as being drawn to a nonelected invention. A complete response to this office action should include cancellation of non-elected claims.

3. Applicants are reminded of the duty to disclose information under 37 CFR 1.56.

***Priority***

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 4, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Estakhri et al. (Estakhri) U.S. Patent No. 5,845,313.

As to claim 1, Estakhri discloses the invention as claimed. Estakhri discloses A method for writing predetermined data to a flash memory, the method comprising the

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steps of: (a) receiving a request to write the predetermined data to a page to which data has been written (col. 6 lines 41-54); (b) writing the predetermined data to a log block corresponding to a data block containing the page (col. 6 lines 41-54); (c) receiving a request to write the predetermined data to the page again (col. 6 lines 54-55); and (d) writing the predetermined data to an empty free page in the log block (col. 6 lines 55-57).

As to claim 2, Estakhri discloses the invention as claimed above. Estakhri further discloses wherein the step (b) comprises the step (b11) of writing the predetermined data to an empty free page (col. 6 lines 41-53).

As to claim 3, Estakhri discloses the invention as claimed above. Estakhri further discloses wherein the step (b) comprises the steps of: (b21) allocating the log block; and (b22) writing the predetermined data to an empty page at the same position as the requested page in the data block (col. 6 lines 41-53).

As to claim 4, Estakhri discloses the invention as claimed. Estakhri discloses a method for writing predetermined data to a flash memory, the method comprising the steps of: (a) receiving a request to write the predetermined data to a page (col. 6 lines 41-54); (b) allocating a log block 1-1 corresponding to a first data block containing the page (col. 6 lines 41-54); (c) writing the predetermined data to an empty page in the log block 1-1 (col. 6 lines 41-54); (d) receiving a request to write the predetermined data to

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the page again (col. 6 lines 54-55); and (e) writing the predetermined data to an empty free page in the log block 1-1 (col. 6 lines 55-57).

As to claim 11, Estakhri discloses the invention as claimed above. Estakhri further discloses wherein the step (e) comprises the steps of: (e1) allocating a new log block 1-2 if a free page does not exist in the log block 1-1 (col. 7 lines 8-15); and (e2) writing the predetermined data to a free page in the log block 1-2 (col. 7 lines 8-15).

As to claim 15, Estakhri discloses the invention as claimed above. Estakhri further discloses wherein the step (e2) comprises the step of (e21) writing the predetermined data to a free page at the same position as the requested page in the data block (col.5 lines 60+).

### ***Allowable Subject Matter***

6. Claims 5-10 and 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim, any intervening claims, and overcome claim objection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

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A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. ' 1.111(c).

When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong C Kim whose telephone number is 703-305-3835. The examiner can normally be reached on M-F 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt M Kim can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to TC-2100:**  
(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

HK   
Primary Patent Examiner  
July 21, 2004